

Ground Loop Design Thermal Conductivity Report - 11/04/2010

Project Name: Conductivitat Tèrmica Sòl 		
Project Address: Banyoles		
City: Banyoles	State:	Zip:
Prepared By: Sialtec		
Email: info@sialtec.cat	Phone: 626280503	
Drill Date 24/03/2010		
TC Test Date(s) 06/04/2010 >> 09/04/2010		
Client Name:		
Address Line 1:		
Address Line 2:		
City:	Phone:	
State:	Fax:	
Zip:	Email:	

Calculation Results

Thermal Conductivity (W/(m*K)) :	1,77
Thermal Diffusivity (est.) (m ² /day) :	0,067
Average Heat Flux (W/m) :	61,4
Average Flow Rate (L/s) :	0,54
Test Duration (hr) :	28
Calculation Interval :	12,0 - 40,0 Hours

Borehole Input Parameters

Undisturbed Ground Temperature (°C) :	14
Depth (m) :	30,0
Borehole Diameter (mm) :	150,0
Pipe Size:	1 1/4 in. (32 mm)
Grout Thermal Conductivity (W/(m*K)) :	1,47
Drilling Method :	Standard
Drilling Time (hr) :	5.0

Diffusivity Input Parameters

Soil/Rock Specific Heat - Dry (kJ/(K*kg)) :	0,900
Soil/Rock Density - Dry (kg/m ³) :	2200,0
Moisture (0-100) (%) :	5

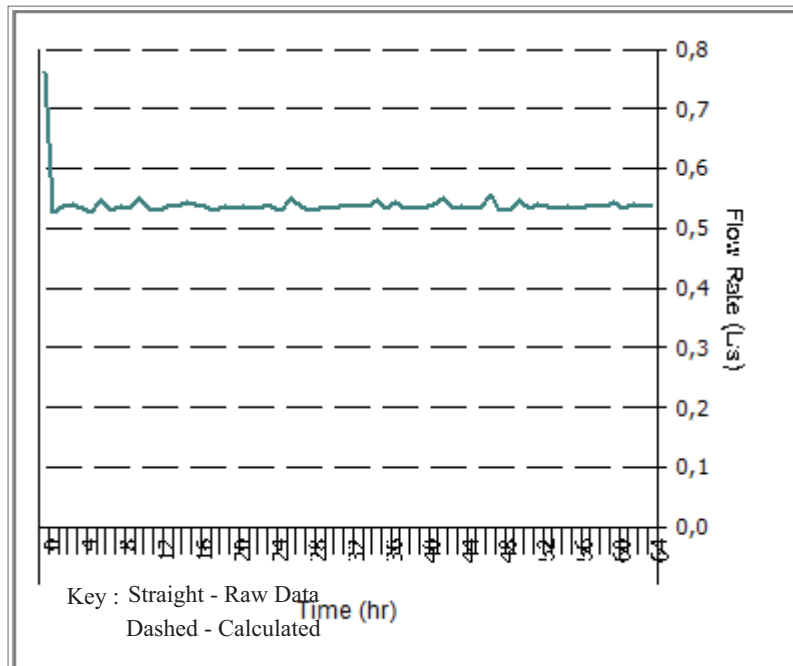
Flow Rate Input Parameters

TC Unit Model Name	Standard
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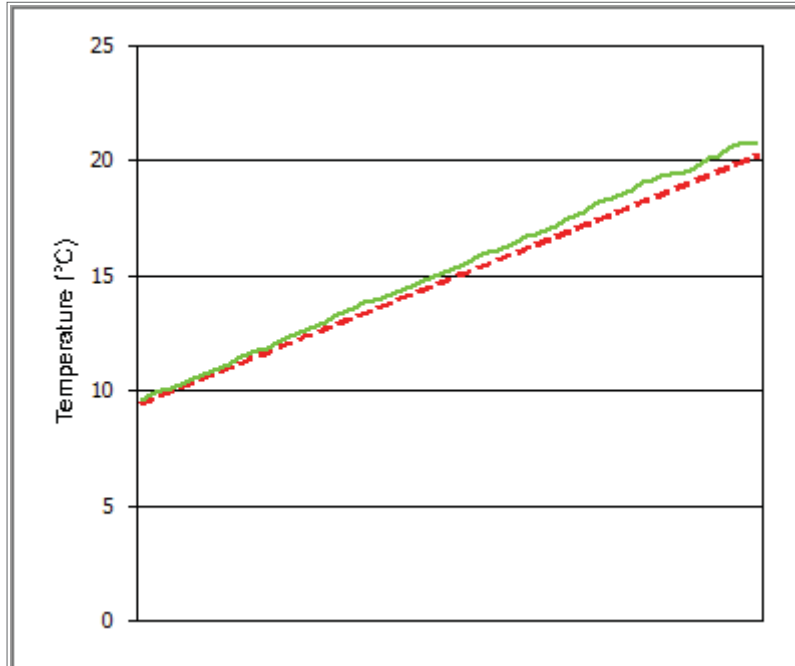
Data Quality

Power Standard Deviation :	Pass	Threshold 10,00 %	Flow Rate :	Pass	Threshold 5,00 %
Power Variation :	Pass	1,50 %	Slope Stability :	Pass	25,00 %
Temperature :	Pass	5,00 %	Water Flow Test :	Pass	25,00 %

Temperature vs Time

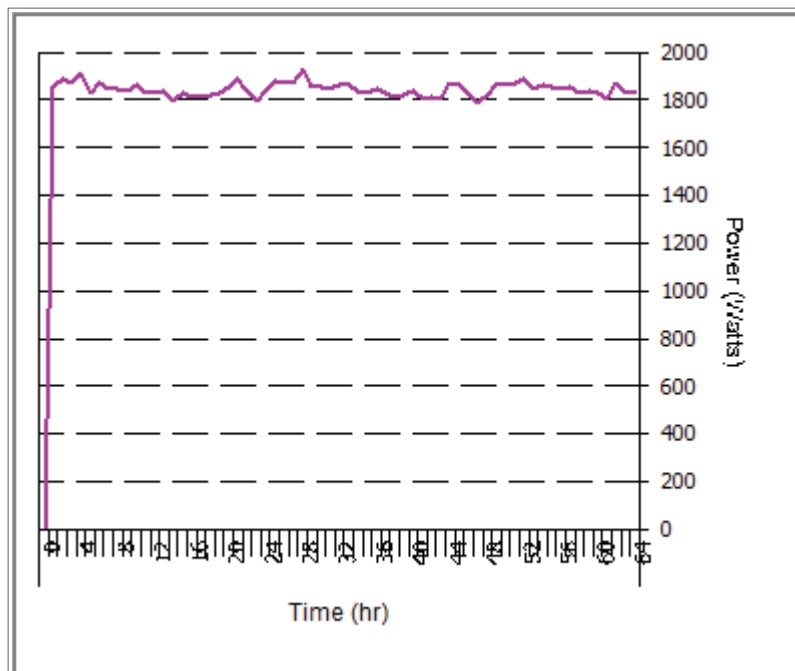


Power vs Time



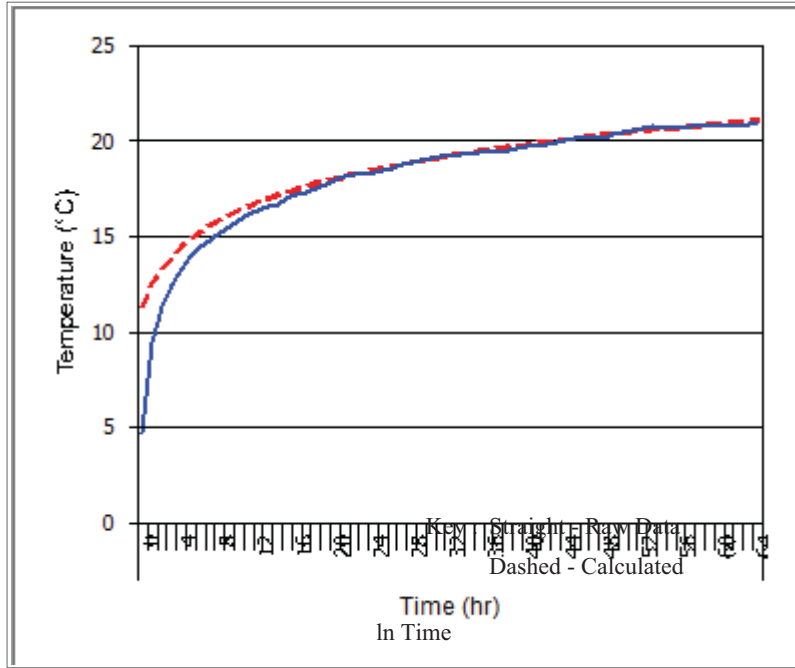
Average Power 1843,2 Watts

Flow Rate vs Time



Average Flow Rate 0,54

Temperature vs ln(Time)



Slope : 2,76
Calculation Interval : 12,0 - 40,0 Hours

